



DepthQ-WXGA

HIGH DEFINITION 3D VIDEO PROJECTOR



Serial RS-232 Control of the DepthQ-WXGA

Introduction:

RS-232 is a communication protocol that can be used to send commands to and retrieve status information from projectors and other RS-232 enabled devices. Most commonly the RS-232 capability of projectors is used in conjunction with a control system capable of managing several other systems, such as lighting, curtains and audio systems, often via a touch panel remote. Simpler RS-232 implementations require nothing more than a personal computer, an RS-232 capable projector and the appropriate cable.

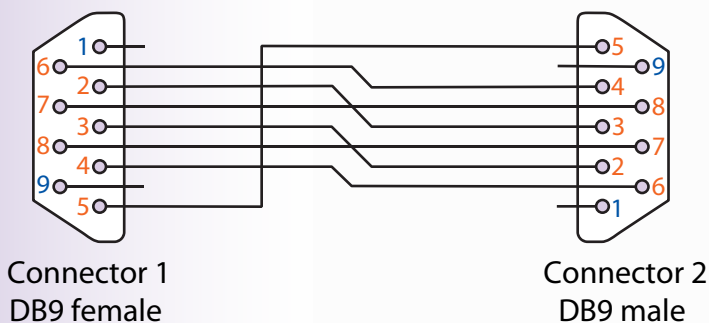
Configuration:

Setting	Value
Bits per second (bps)	115,200
Data bits	8
Parity	None
Stop Bits	1
Flow control	None
Emulation	VT100

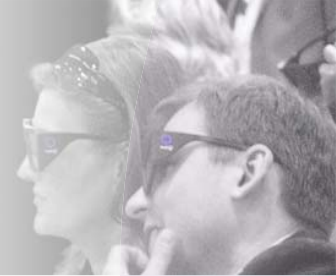
Required Cables:

Null modem cable - female to female DB9 connector (9-pin serial)

Connector Pin-out:



Connector 1	Connector 2	Function
1	9	Carrier Detect (not used)
2	8	Receive Data
3	7	Transmit Data
4	6	Data Terminal Ready
5	5	Signal Ground
6	4	Data Set Ready
7	3	Request to Send
8	2	Clear to Send
9	1	Ring Indicator (not used)



Command Format:

All commands consist of 3 alpha characters followed by a request, all enclosed in parentheses. The request can be a read request (indicated by a “?”) or a write request (indicated by 1 to 4 ASCII digits).

To assure the projector can process a command, wait 500ms before entering the next command.

READ Commands:

A read command returns the range and the current setting, for example: Some commands have ranges, while others are absolute. If a number greater than the maximum range is received, it is automatically set to the maximum number for that function. If a command is received that is not understood, a “?” is returned.

Example READ Commands:

Function	Command	Response	Meaning
Power On/Off	(PWR?)	(0-1,1)	Projector is turned on
Brightness	(BRT?)	(0-100, 75)	Brightness is at 75
Current lamp hours	(LMP?)	(0-3000, 350)	Unit has 350 lamp hours

WRITE Commands:

A write command will change a value in the projector and can be used to mimic menu or remote control commands that are manually entered. Some commands may have 1, 2, or up to 101 values. A command that only has a value of 1 is a pulse command that activates once then goes back to rest. An example of this would be Auto Image. Most other commands will consist of a toggle state (0 or 1) or a selected range (0 to 100).

Example WRITE Commands:

Function	Command	Response
Power On/Off	(PWR1)	Turns power on
Current Source	(SRC2)	Set current source to Composite
Factory Reset	(RST1)	Reset's unit to factory default

Error Conditions

Not all commands are supported for all projectors. If an unsupported command is issued, the command will be ignored. If a command is received that is not understood, a ‘?’ character will be returned indicating the command was not understood.



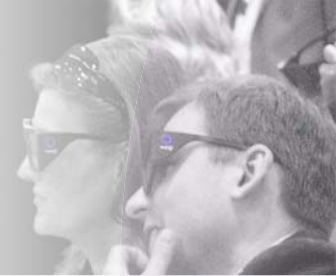
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HIGH DEFINITION 3D VIDEO PROJECTOR



Supported Commands:

Function	Command	Command Description	Value	Read Only
AC Power On	APO	Stay off when AC power applied (default)	0	
		Turn on when AC power applied	1	
Aspect Ratio	ARZ	Auto (default)	0	
		Native	1	
		4:3	2	
		16:9	3	
		Letterbox	4	
		Panorama	5	
		Full Screen	6	
Auto Image	AIM	Reacquire and lock into input source	1	
Auto Off Time	AOT	Never auto off	0	
		5 min	1	
		10 min	2	
		15 min	3	
		20 min	4	
		25 min	5	
		30 min(default)	6	
Auto Source	ASC	Off	0	
		On (default)	1	
Blank Screen	BLK	Disable (default)	0	
		Enable	1	
Blank Screen Color	BSC	Black	0	
		White	1	
		Blue (default)	2	
Blank Screen Style	BSS	Solid (default)	0	
		Timer	1	
		Test Patterns	2	
Brightness	BRT	Default 50	0-100	
Brilliant Color	BCL	Normal (default)	0	
		Brilliant	1	
Ceiling Mount	CEL	Off (default)	0	
		On	1	
Color Setting	CLR	Saturation, 50 default	0-100	
Color Space	CSM	RGB (default)	0	
		REC709	1	
		REC601	2	
		RGB Video	3	
		Auto	4	
Color Temp	TMP	Warmest (default)	0	
		Warm	1	
		Cool	2	
		Bright	4	
Contrast Setting	CON	Default 50	0-100	
Current Source	SRC	Computer 1	0	
		Computer 2	1	
		Composite	2	
		Svideo	3	
Custom Key	EFK	Blank Screen (default)	0	
		Mute	1	
		Aspect Ratio	3	
		Source	4	



Function	Command	Command Description	Value	Read Only		
Custom Key	EFK	Auto Image	5			
		Freeze Screen	6			
		Source Info	8			
		Projector Info	10			
		Overscan	13			
Error Condition	ERR	No error		0		
		The lamp won't strike after 5 attempts		1		
		Lamp went out unexpectedly		3		
		Fan failure		4		
		Over temperature		5		
		Low voltage		6		
Factory Reset	RST	Resets all settings to default	1			
Freeze Screen	FRZ	Disable (default)	0			
		Enable	1			
Gamma Setting	GTB	Optimize gamma for video content	2			
		Optimize gamma for film content	3			
		Optimize gamma for bright ambient environment	5			
		Optimize gamma to simulate CRT display	7			
Vertical Keystone	DKV	Default 50	0-100			
Horizontal Position	HPS	Default 50	0-100			
Vertical Position	VPS	Default 50	0-100			
Key Click	KCL	Off	0			
		On (default)	1			
Keypad enable	KPE	Disable	0			
		Enable (default)	1			
Language Setting	LAN	English (default)	0			
		Français	1			
		Deutsch	2			
		Italiano	3			
		日本語	4			
		한국어	5			
		Norsk	6			
		Português	7			
		Русский	8			
		简体中文	9			
		Español	10			
		繁體中文	11			
		Svenska	12			
Lamp Life	LIF	Maximum lamp life (returns 3000)		string		
		Low Power	IPM	Off (default)	0	
				On	1	
		Menu On/Off	MNU	Remove OSD Menu	0	
				Display OSD Menu	1	
		Menu Navigate	NAV	Same as menu key	0	
				Same as up key	1	



Function	Command	Command Description	Value	Read Only
Menu Navigate	NAV	Same as down key	2	
		Same as select key	3	
Menu Offset	OFF	Default 0		
Menu Transparency	TOE	Default 60	0-90	
Mute Setting	MTE	Not mute (default)	0	
		Mute	1	
Overscan	OVS	Off (default)	0	
		On	1	
Phase Setting	MSS	Default depends	0-100	
PIN Change	PCG	Usage PCG "old,new"	string	
PIN Reset to Default	PCG	Usage PCG ""	string	
PIN Entry Setting	PET	Usage PET "current"	string	
PIN Protect Setting	PIV	Start without PIN (default)	0	
		Start with PIN	1	
Power On/Off	PWR	Turn projector off	0	
		Turn projector on	1	
Power Sound Setting	ACE	No sound	0	
		On (default)	1	
Power-Up Source	DSC	Computer 1	0	
		Computer 2	1	
		Composite	2	
		Svideo	3	
Preset Setting	PST	User	1	
		Presentation	5	
		Video	7	
		Bright	10	
		Whiteboard	11	
		Blackboard	12	
		Beige Wall	13	
Prevent Screen Saver	NND	Off	0	
		On (default)	1	
Projector Info (read only)	MDL	Model Name		string
	USN	Serial Number		string
	FVS	Firmware		string
	CVS	Configuration		string
	BVS	Boot Code		string
	LMP	Current Lamp Hours (normal + low power)		string
	LMO	Normal		string
	LME	Low Power		string
	LST	Lamp Screen Hours		string
	LMT	Total Lamp Hours (normal + low power)		string
	LTO	Normal		string
	LTE	Low Power		string
Rear Projector	REA	Image not flipped (default)	0	
		Image flipped	1	
Reset Lamp Hours	LRT	Reset lamp hours to zero	1	
Save User Preset	US1	Save user preset	1	
Screen Save Time	SSV	Never (default)	0	
		5 min	1	
		10 min	2	



Function	Command	Command Description	Value	Read Only
Screen Save Time	SSV	15 min	3	
		20 min	4	
		25 min	5	
		30 min	6	
Sharpness	SHP	Maximum	0	
		High	1	
		Normal (default)	2	
		Low	3	
Show Messages	DMG	Not displaying	0	
		Displaying (default)	1	
Source Info	ABT	Display information		string
Source Info Setting	QAS	Active Source		string
	QSF	Signal Format		string
	QAR	Aspect Ratio		string
	RES	Resolution		string
	QVR	Vert Refresh		string
	QHR	Horz Refresh		string
	QPC	Pixel Clock		string
	QST	Sync Type		string
Startup Screen	DSU	Factory Logo (default)	0	
		Blank Screen	1	
		Snapshot	2	
Sync Threshold	STH	Adjust Threshold (Default 87)	0-100	
Tint Setting	TNT	Adjust Tint, 50 (default)	0-100	
Tracking	MTS	Adjust Tracking (Default 0)	0-100	
		On (default)	1	
Video Standard	VSU	Auto (default)	0	
		NTSC	1	
		PAL	2	
		SECAM	5	
Volume Setting	VOL	Default at 50	0-100	
White Peaking	WPK	White Peaking (Default 0)	0-100	
3D Image	TDI	Disables Stereo Sync	0	
		Enables Stereo Sync (Default)	1	

